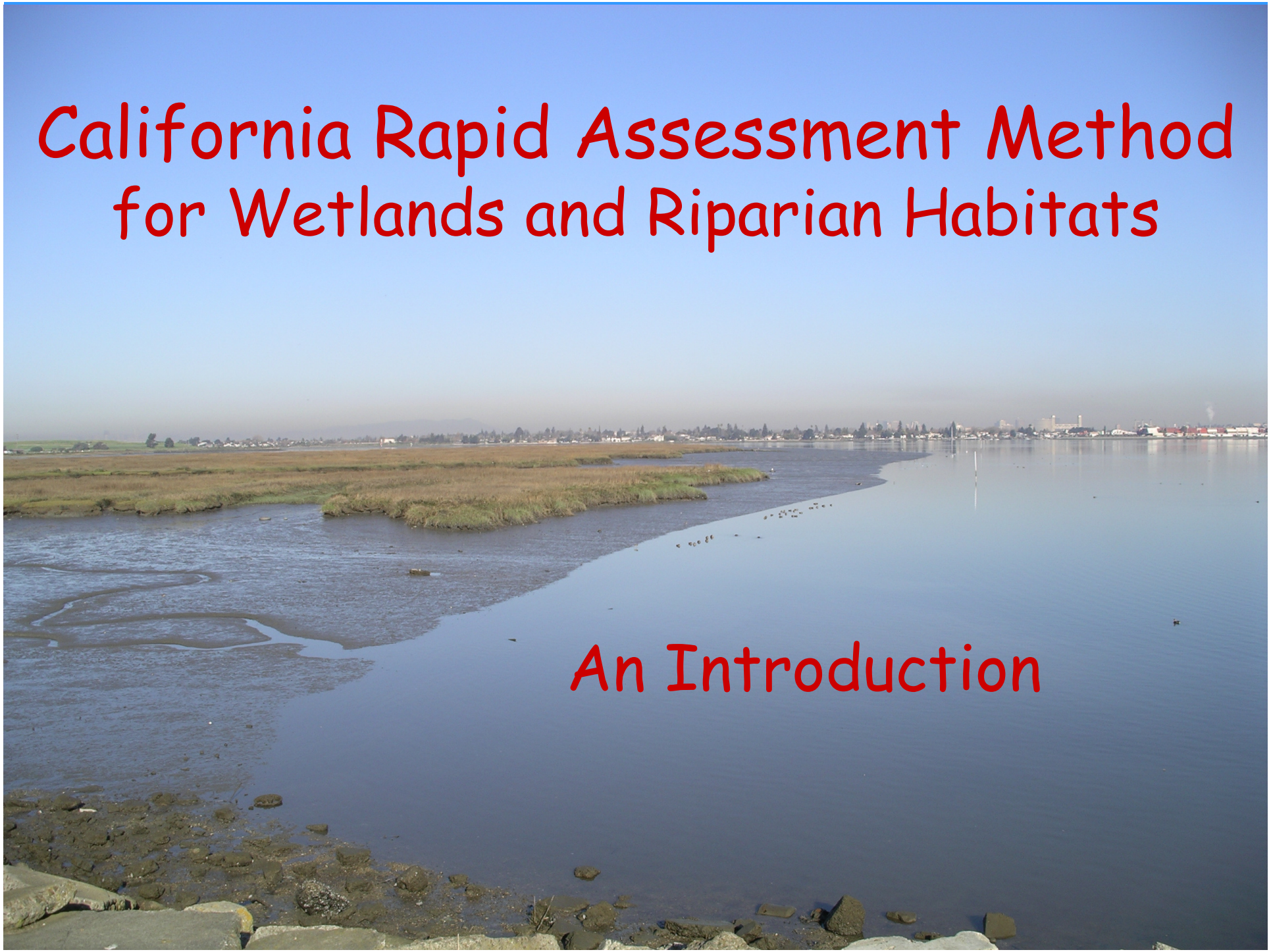
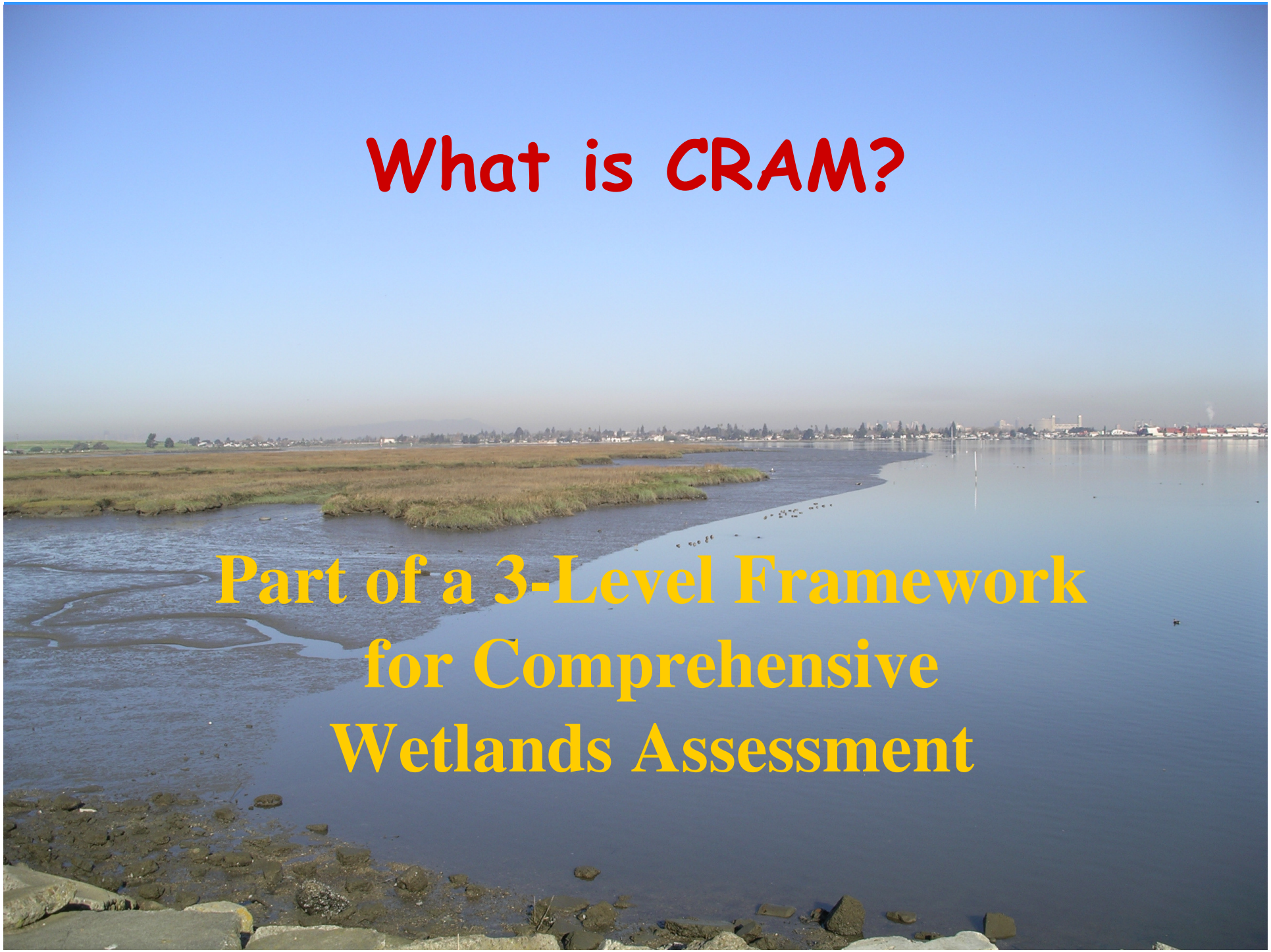
California Rapid Assessment Method for Wetlands and Riparian Habitats



An Introduction


What is CRAM?
Part of a 3-Level Framework
for Comprehensive
Wetlands Assessment

3-Level Monitoring Framework

Level 1: Inventories and Landscape Profiles (State Wetland and Riparian Inventory)

Level 2: Rapid Assessment (CRAM)

Level 3: Intensive Monitoring and Special Studies (IBIs,

What is CRAM?

- Expert "walk and talk" diagnostic tool
- A standard set of questions with mutually exclusive multiple choice answers
- About a half day of field time per Assessment for 2-3 person team
- Required expertise comparable to jurisdictional delineation

Purpose

Track net change in wetland and riparian condition to ease the burden of reporting under CWA 401, 404, 305b, 304d, plus state WDR, FGC 1600, no-net-loss policies.

Purpose

Provide public access to basic wetland information to assist environmental education and science.

CRAM Scope

All wetlands of all types in California

lacustrine, estuarine, coastal lagoon, riverine-riparian, depressional, wet meadow, vernal pools, playas, seeps and springs

CRAM wetland classes are cross-walked to NWI and the State Wetland Inventory

CRAM Scope

Only compare wetlands of the same kind

CRAM Tenets

Function follows from structure and form …

Basic wetland condition can be assessed using visible field indicators.

CRAM Tenets

Living resources matter most…

A monitoring program is not about the wetlands per se, but the life and services that wetlands should support.

CRAM Tenets

More wetland is better …

Larger natural wetlands in better condition provide more service to society.

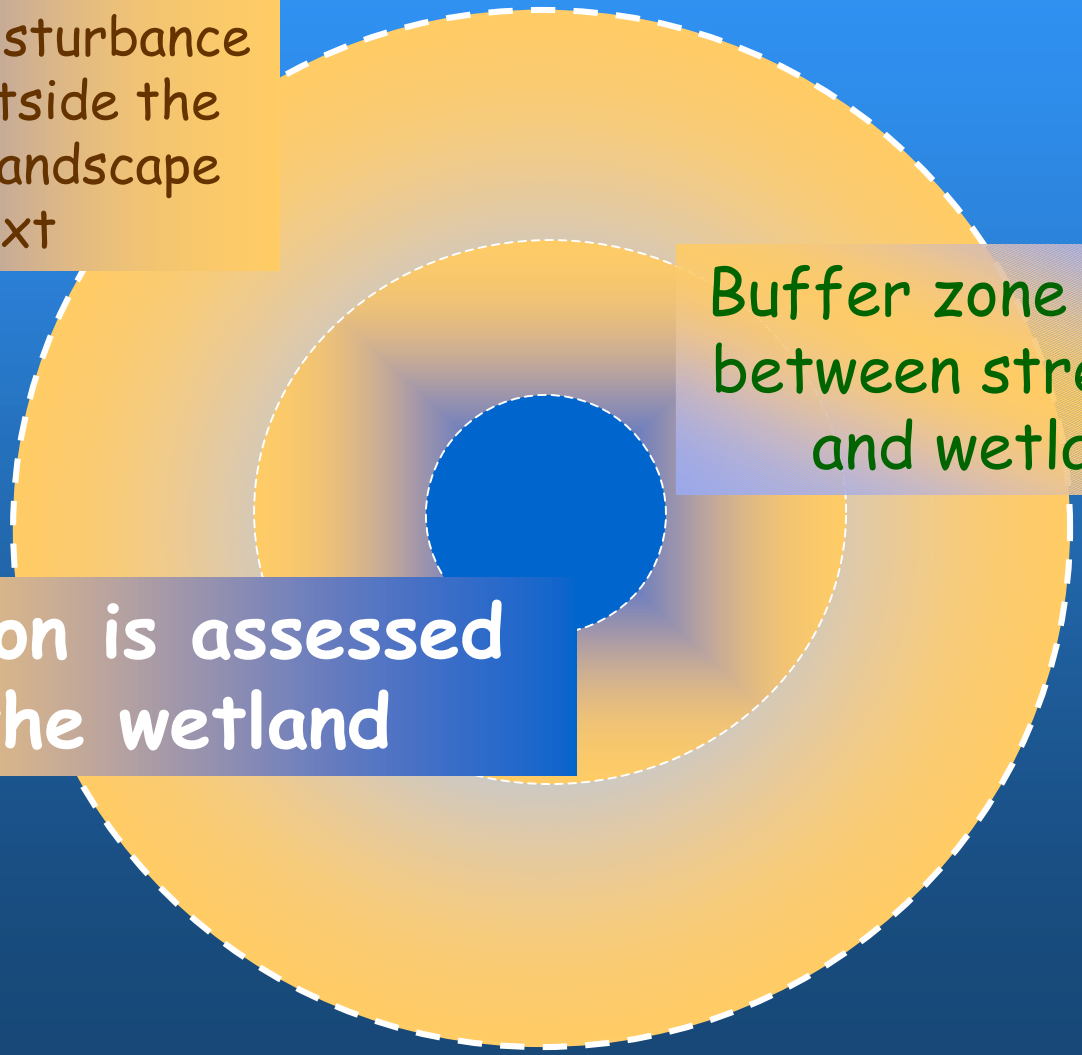
CRAM Tenets

More complexity is better …

Greater natural complexity means richer native communities.

Spatial Template of Driving Forces

Stress and disturbance originate outside the wetland, in landscape context



Buffer zone exists between stressors and wetland

Condition is assessed at the wetland

Hierarchy of Assessment Approach

Wetland Sites, *have one or more*

Assessment Areas, *for which there are*

Attributes of Condition

which have

Same for all Wetlands Classes

Metrics, *which have*

States, *which have*

Scores (*cf reference conditions*)

Vary among Wetland Classes

Reference Concepts

- Metrics are scored relative to statewide ideal (ideal varies between wetland classes).
- For each metric, a network of reference sites is needed to represent the full range of condition. Regional networks may be helpful.

Steps to Complete a CRAM Assessment

Step 1	Assemble background information about the management and history of the wetland
Step 2	Classify the wetland using the California State Wetland Inventory
Step 3	Verify the appropriate season and other timing aspects of field assessment
Step 4	Determine the boundary and estimate the size of the wetland
Step 5	Determine the boundary and estimate the size of the AA (if not the same as wetland)

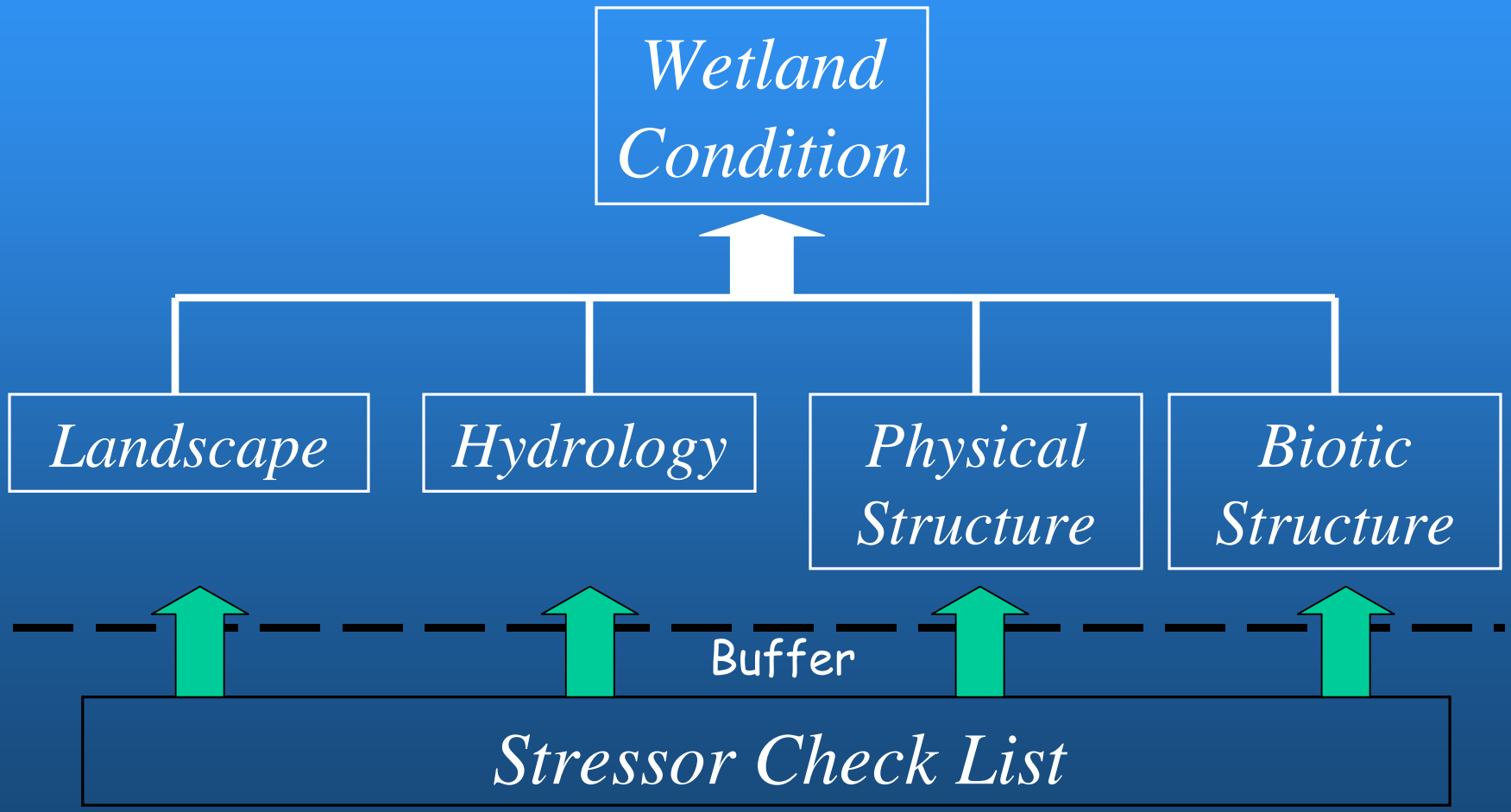
Determine the boundary and estimate the size of the AA (if not the same as wetland)

- Hydrological criteria
- Time criteria
- Nature of site
  - Small sites: "features approach"
  - Large sites: "random start approach"
- Purpose of assessment
  - Ambient: one AA per site ok
  - Site assessment: may need multiple AAs per large site

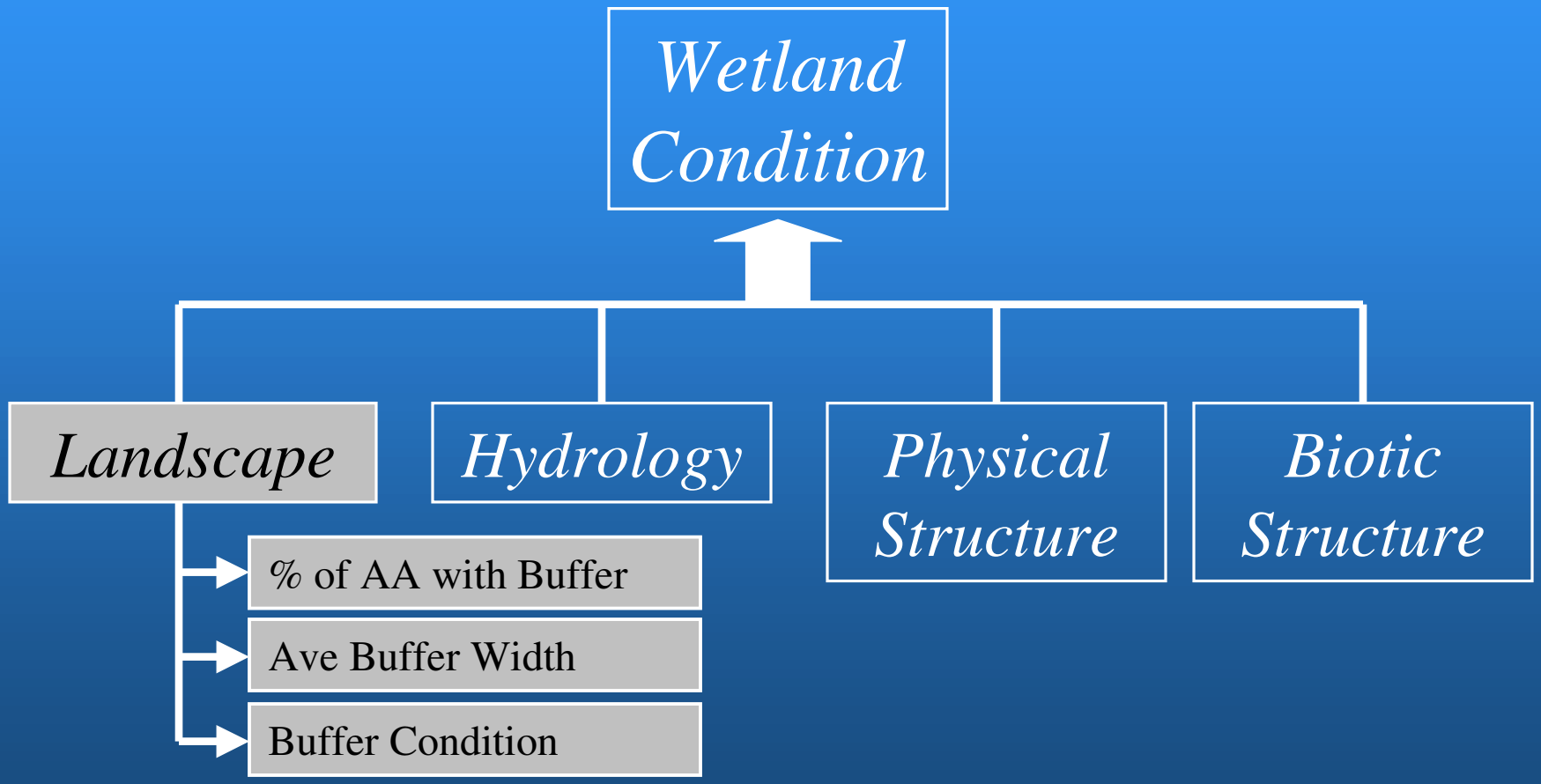
Steps to Complete a CRAM Assessment

Step 6	Conduct the office assessment of stressors and on-site conditions of the AA
Step 7	Conduct the field assessment of stressors and on-site conditions of the AA
Step 8	Complete CRAM assessment scores and QA/QC Procedures
Step 9	Upload CRAM results into regional and statewide information systems

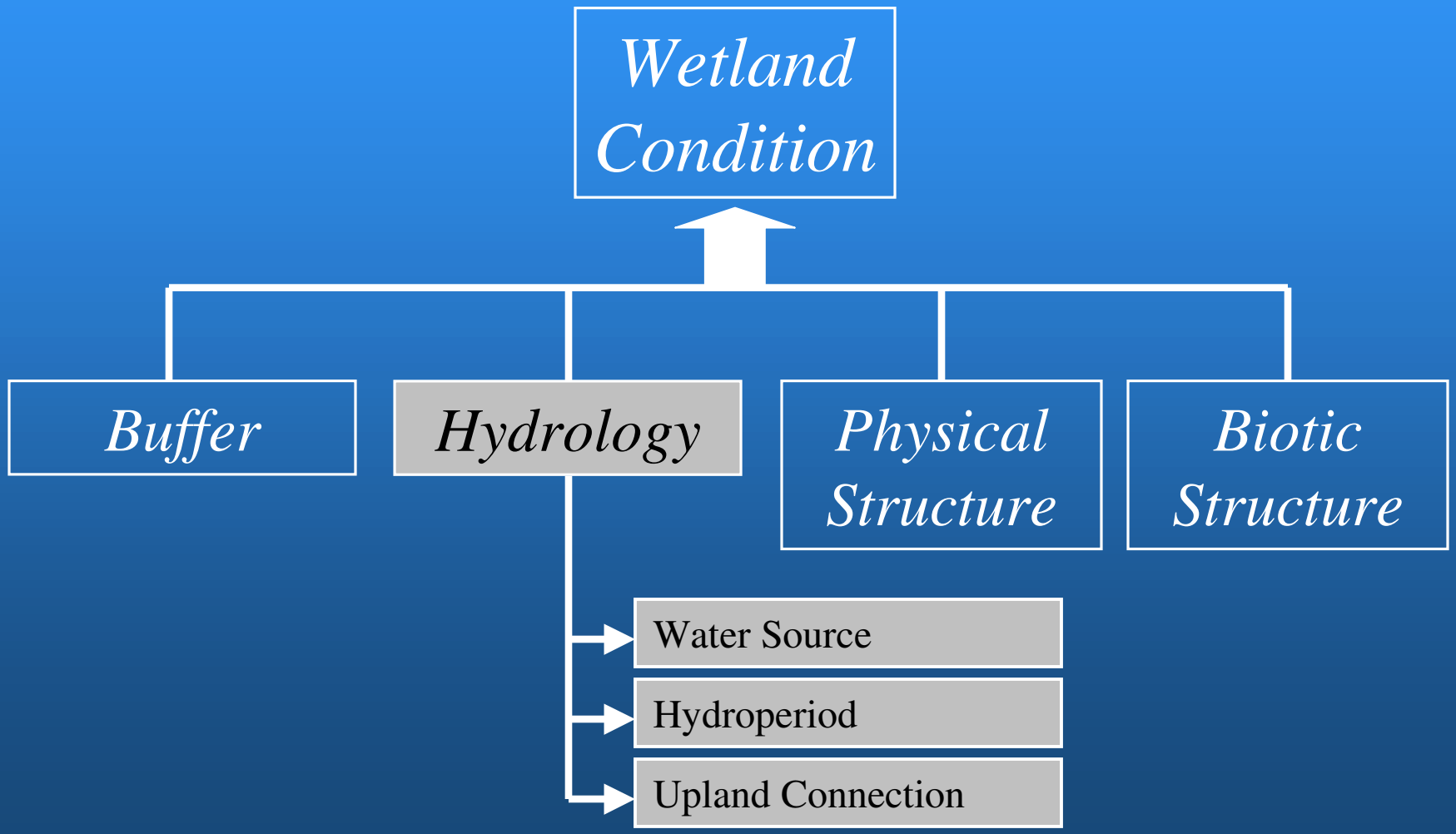
CRAM Conceptual Framework: Condition and Stressors



CRAM Conceptual Framework: Condition Attributes and Metrics



CRAM Conceptual Framework: Condition Attributes and Metrics



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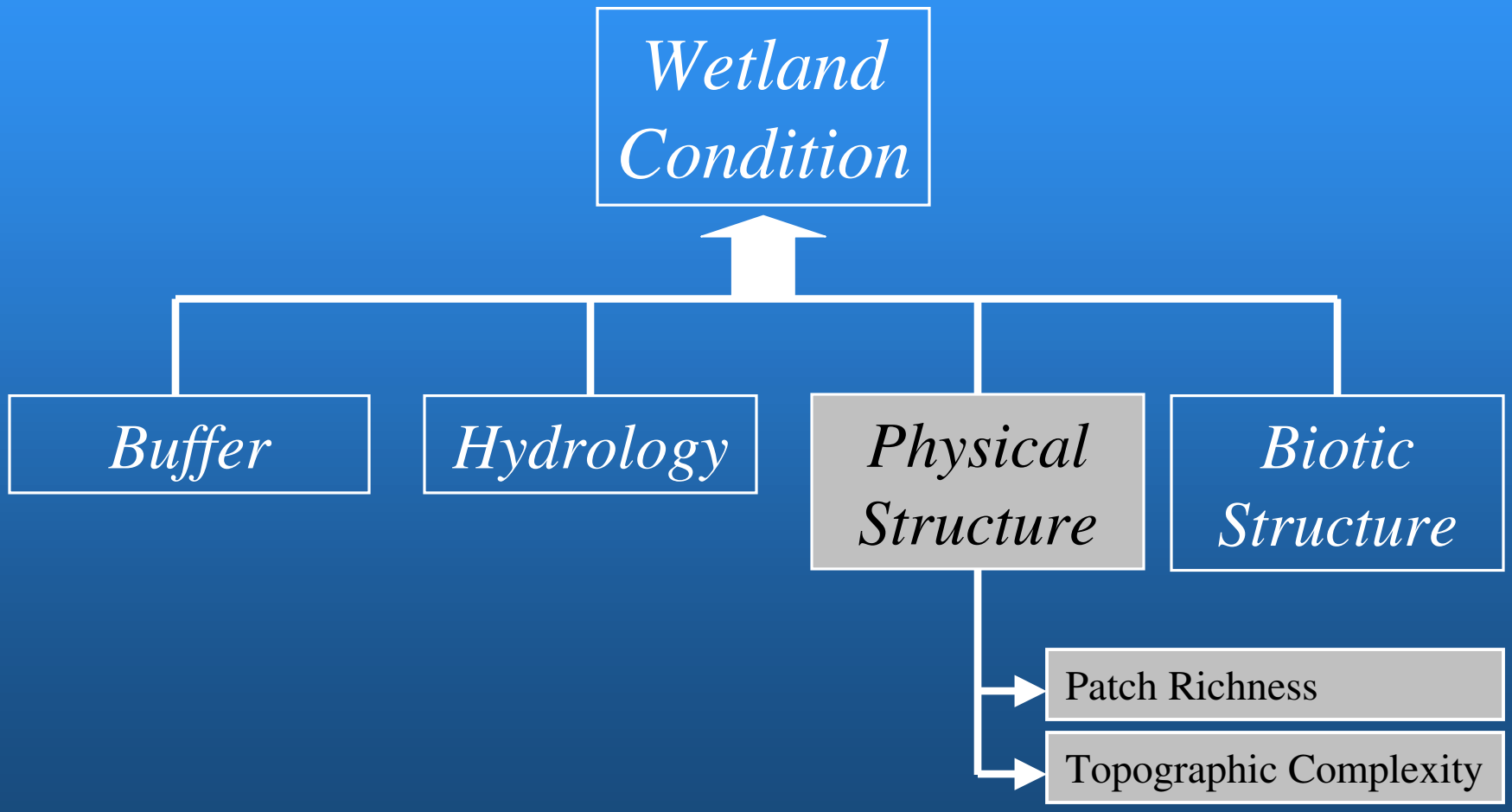
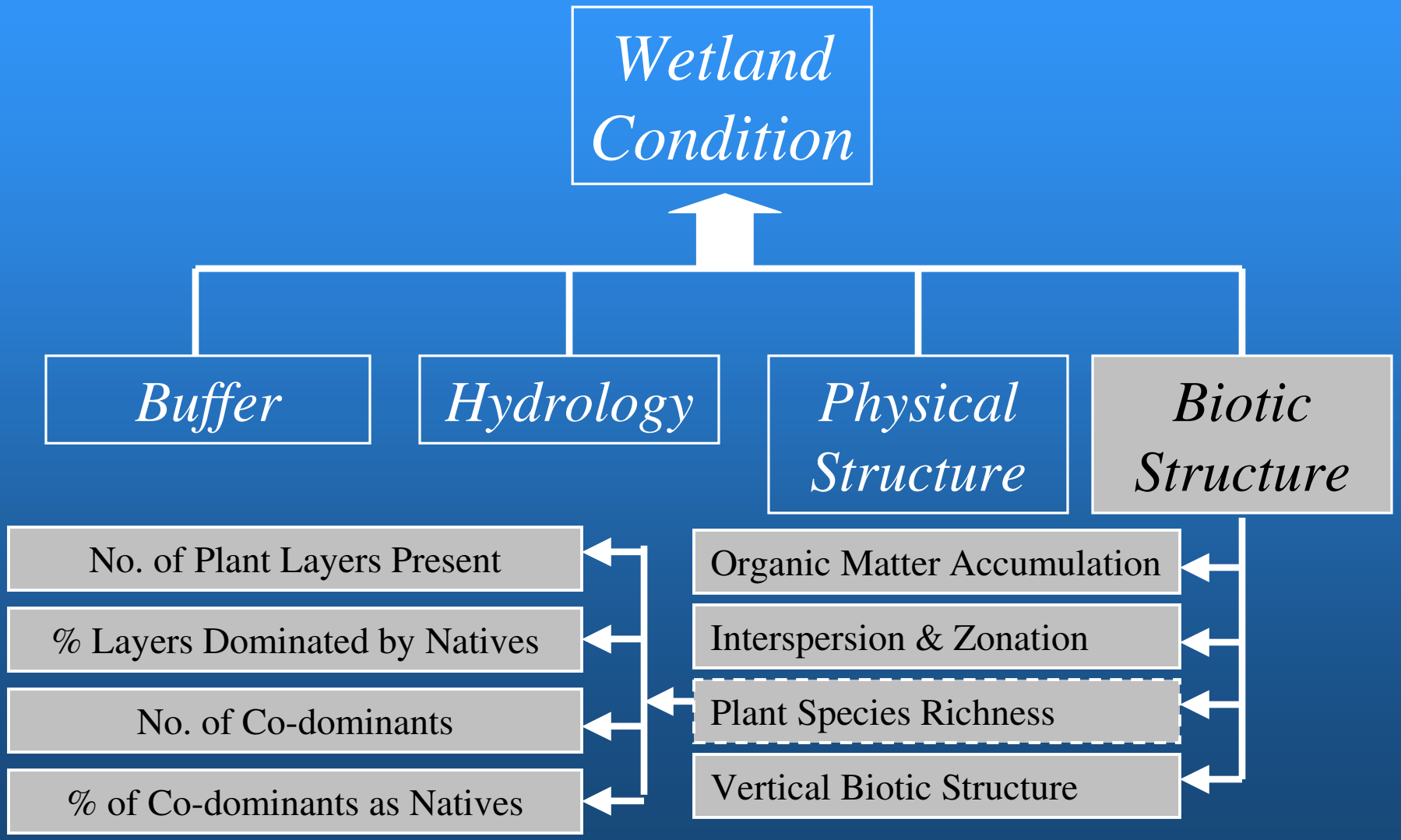
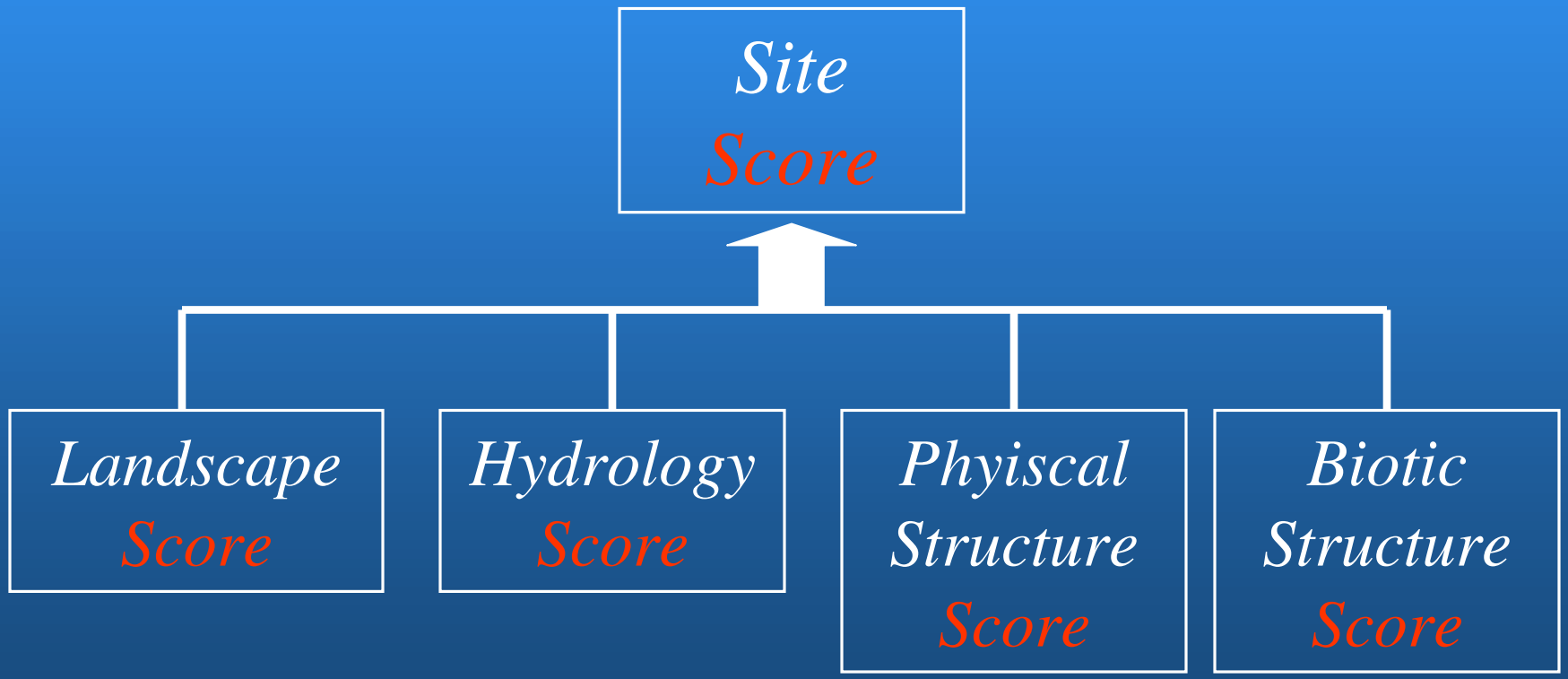


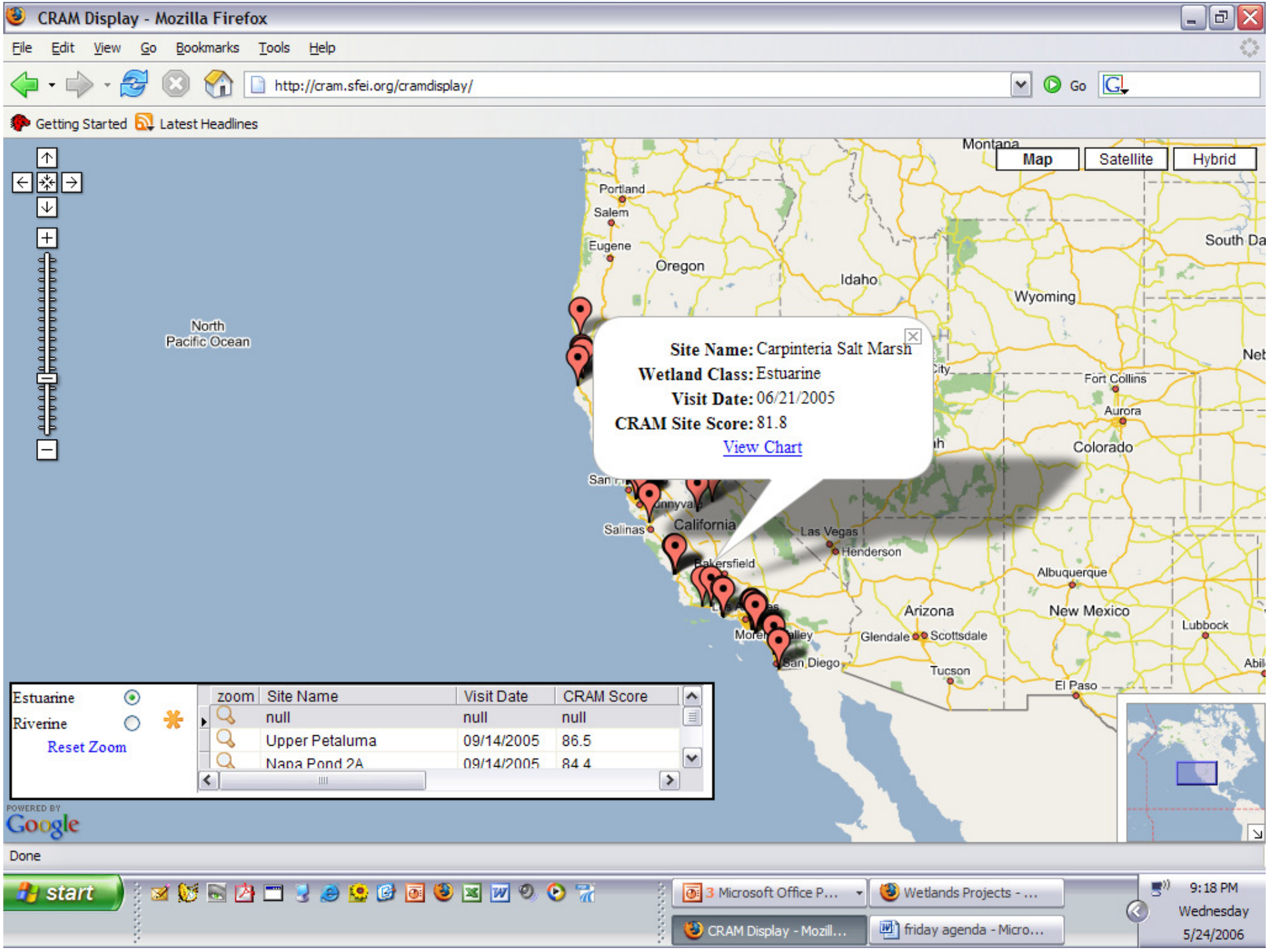
CRAM Conceptual Framework: Condition Attributes and Metrics



CRAM Results: Attribute & Site Scores

Percent of Maximum Possible

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Colorado
North
Pacific Ocean
Site Name: Carpinteria Salt Marsh
Wetland Class: Estuarine
Visit Date: 06/21/2005
CRAM Site Score: 81.8
View Chart
California
Salinas
Las Vegas
Henderson
Albuquerque
Arizona
New Mexico
Lubbock
Glendale
Scottsdale
Tucson
El Paso
San Diego
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Riverine
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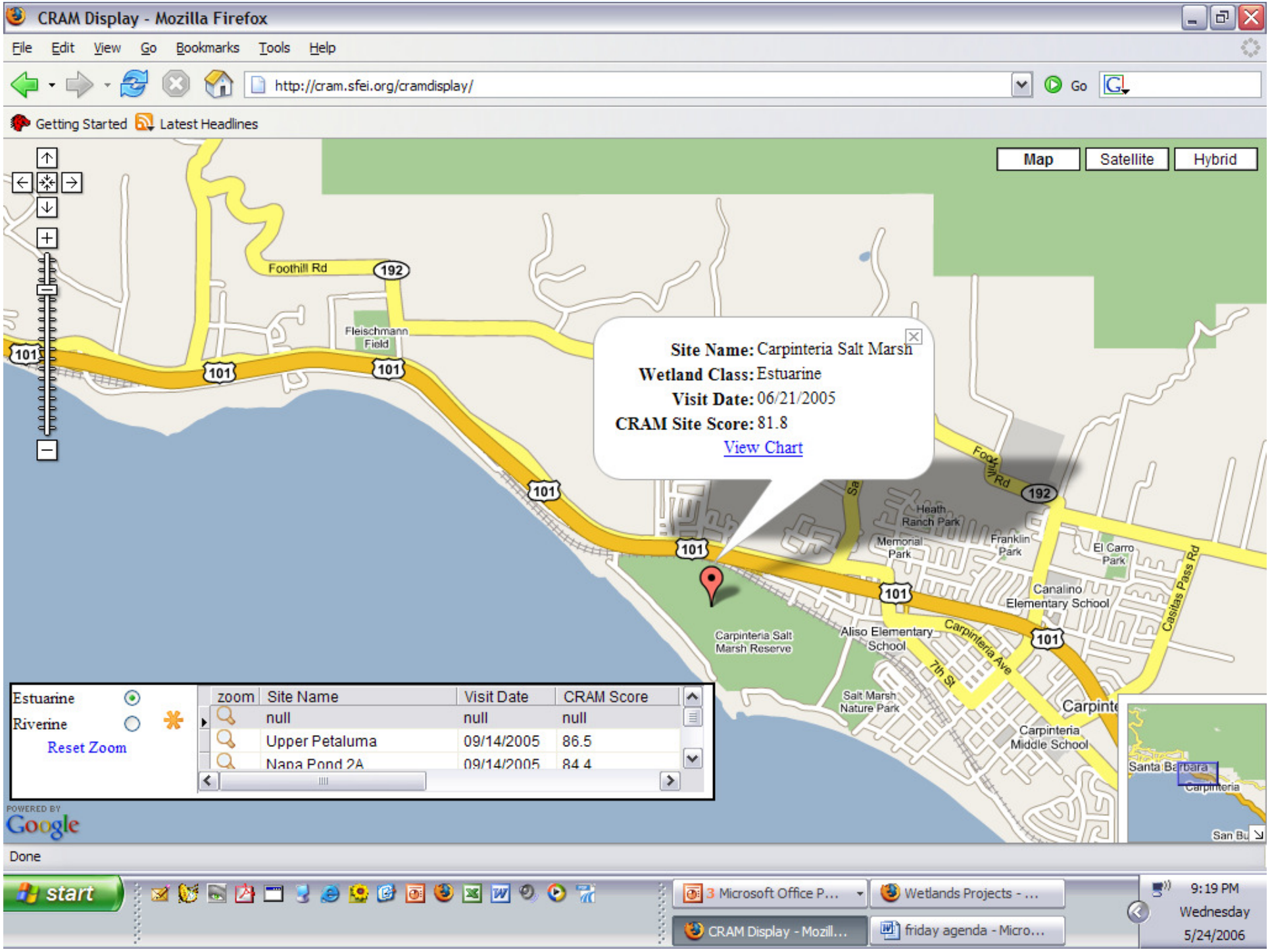
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101
Fleischmann Field
Heath Ranch Park
Memorial Park
Franklin Park
El Carro Park
Canalino Elementary School
Casitas Pass Rd
Carpinteria Salt Marsh Reserve
Aliso Elementary School
Carpinteria Ave
7th St
Salt Marsh Nature Park
Carpinteria Middle School
Estuarine
Riverine
Reset Zoom
zoom
Site Name
Visit Date
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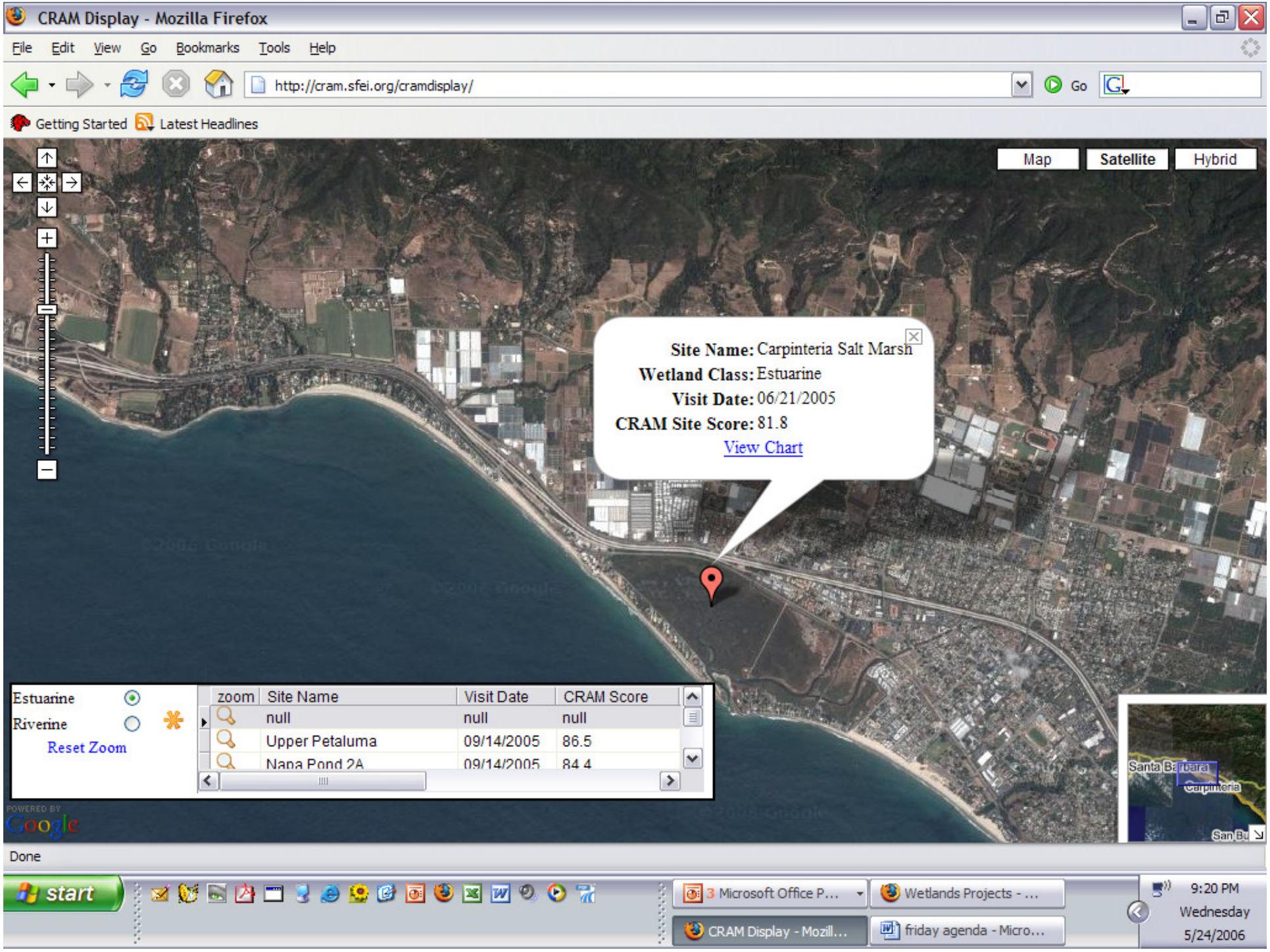
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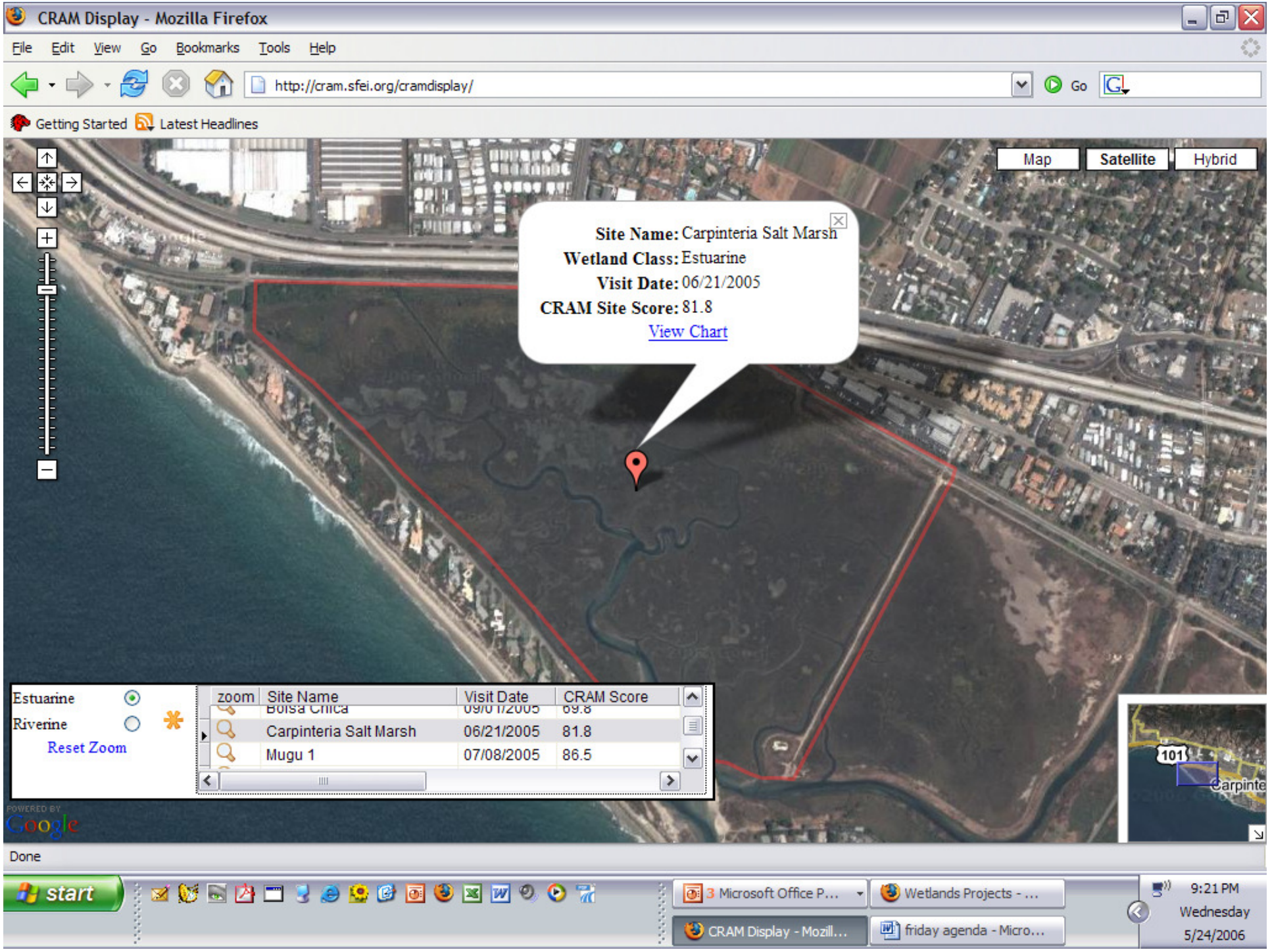
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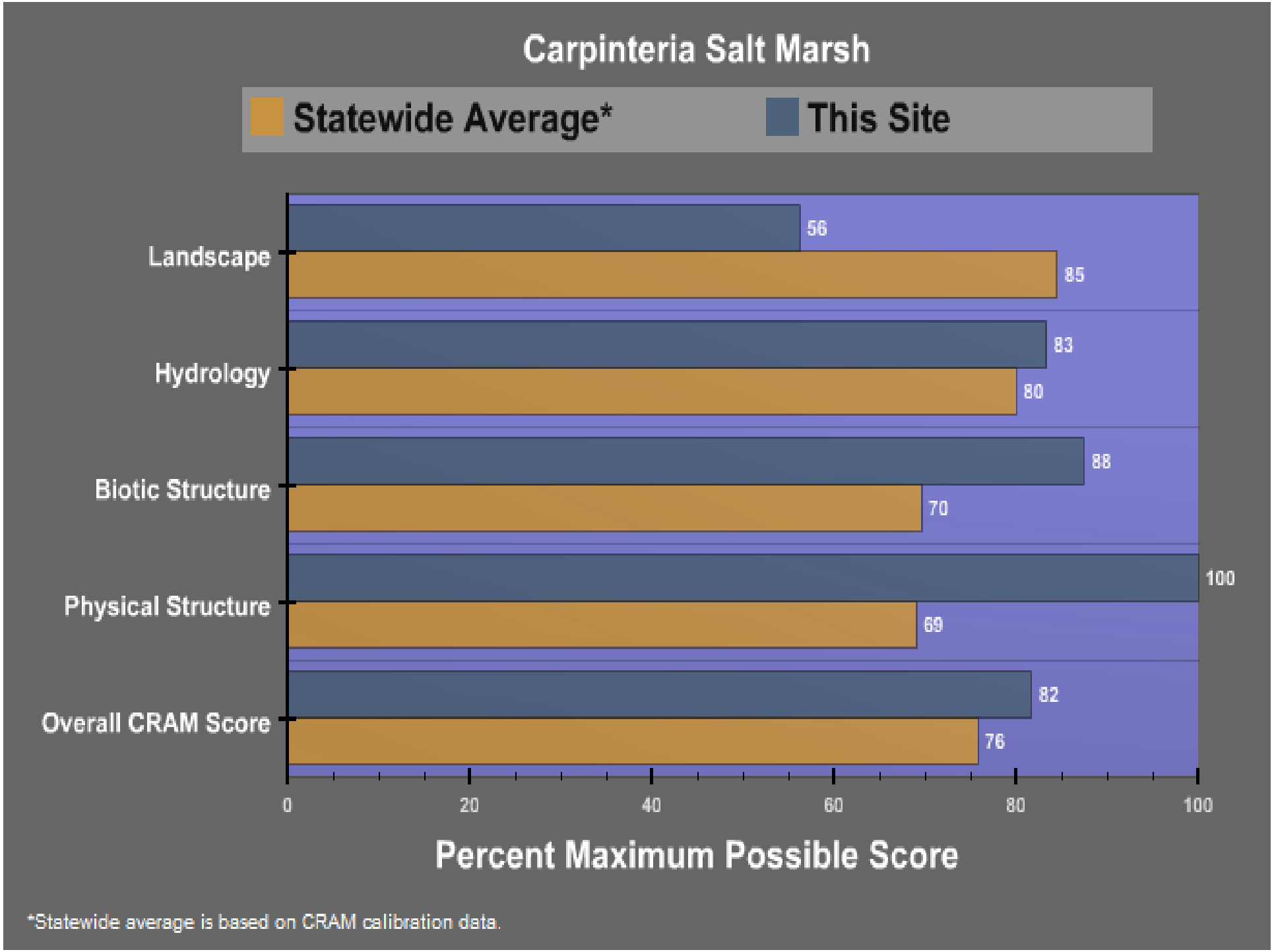

*Statewide average is based on CRAM calibration data.

Thank You